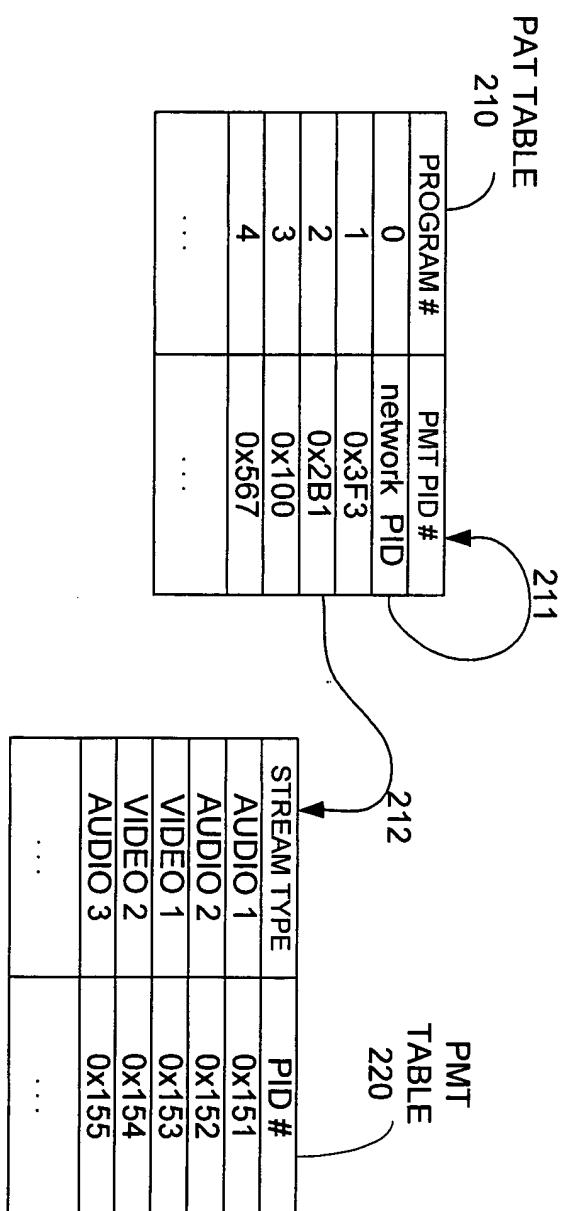


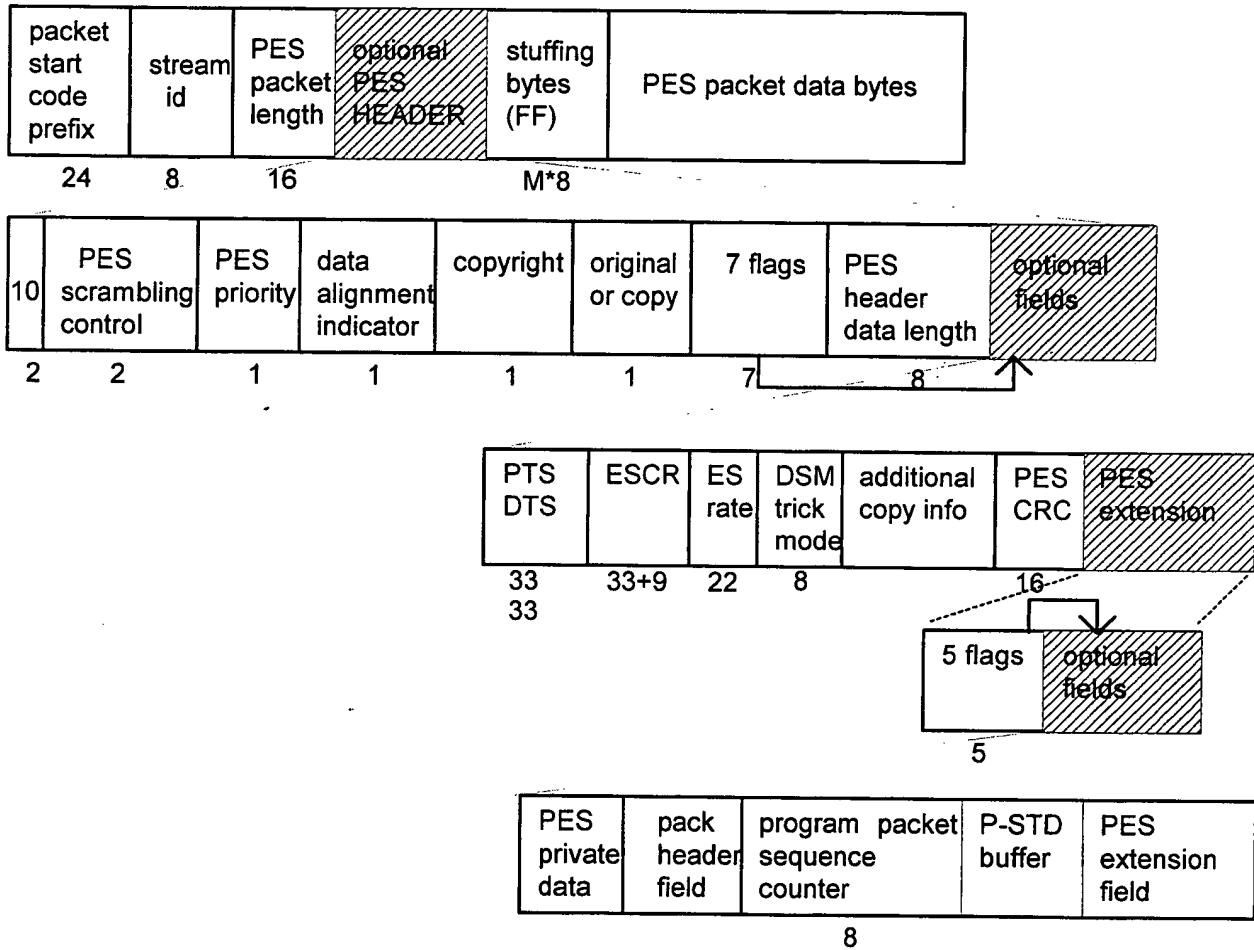
--PRIOR ART--

**FIGURE 1**



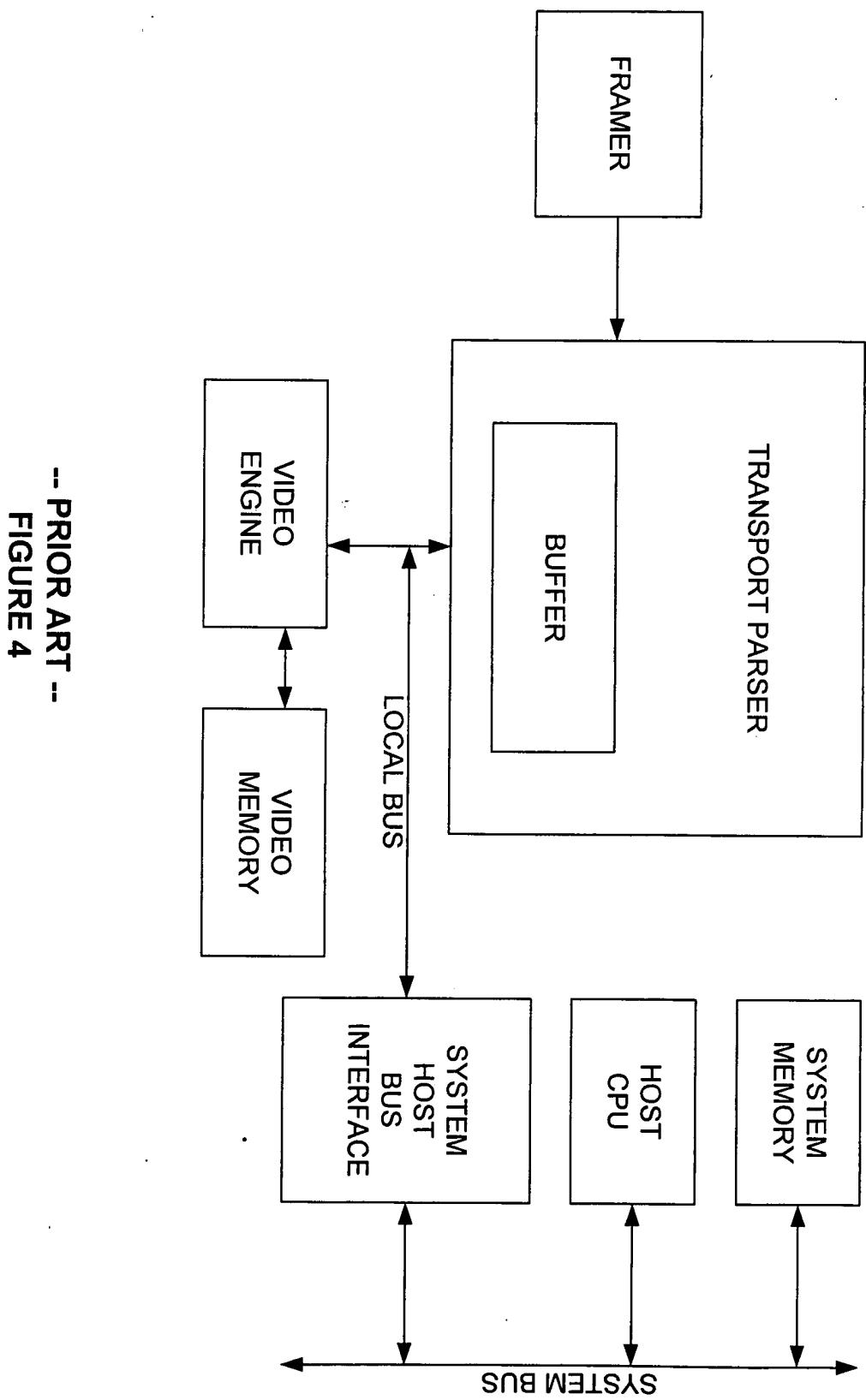
--PRIOR ART--

## FIGURE 2



--PRIOR ART--

**FIGURE 3**



-- PRIOR ART --  
FIGURE 4

400

TPP\_DEN

AFP\_DEN

EN\_PESP

PESP\_DEN

TRANSPORT  
PACKET  
PARSER  
(TPP)  
420

ADAPTATION  
FIELD  
PARSER  
(AFP)  
450

PES  
PARSER  
(PESP)  
430

BUFFER CONTROLLER  
460

VIDEO  
FIFO  
461

SYSTEM  
MEMORY  
471

SYSTEM  
FIFO  
462

SYSTEM  
MEMORY  
472

TRANSPORT  
STREAM

FRAMER  
410

REGISTER SET  
480

**FIGURE 5**

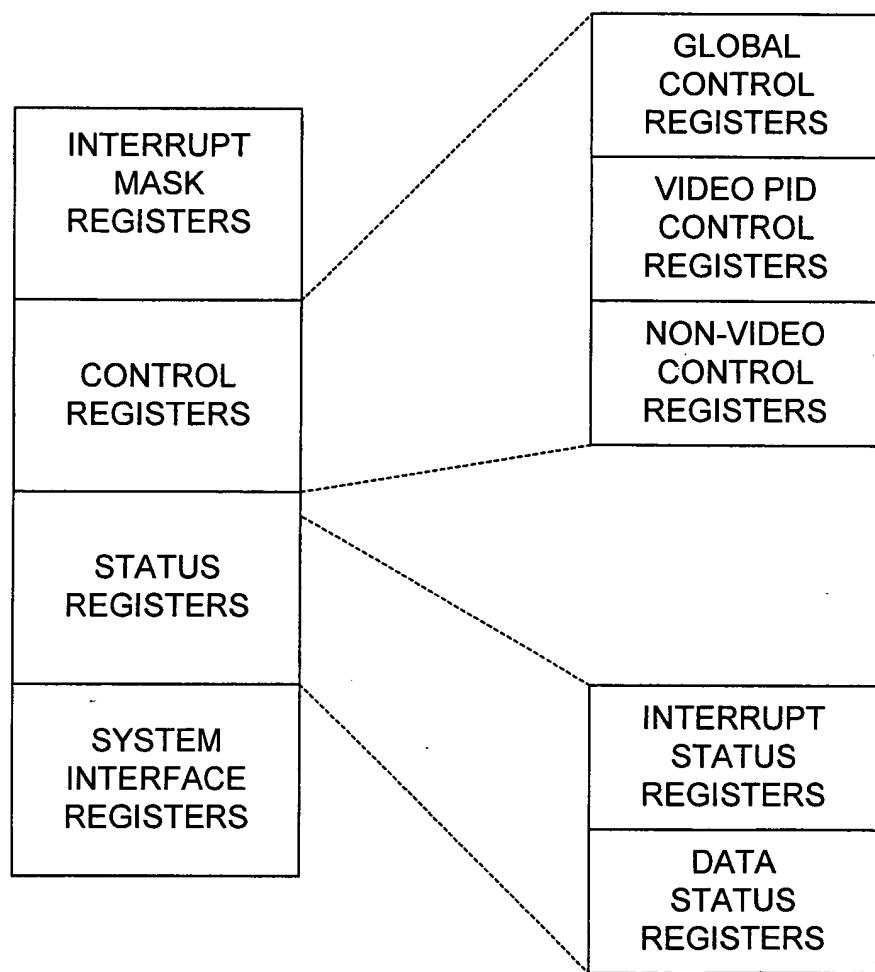
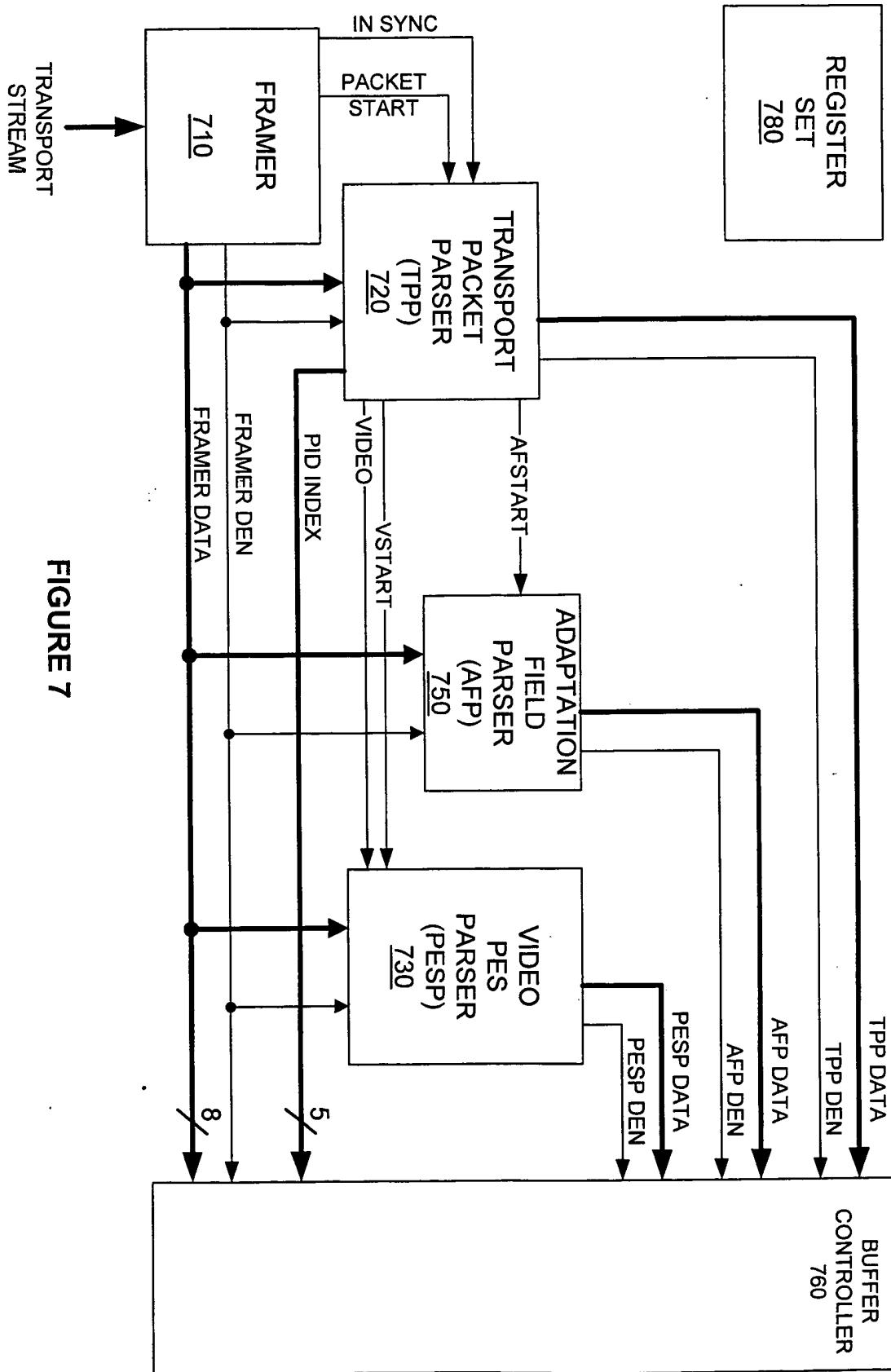
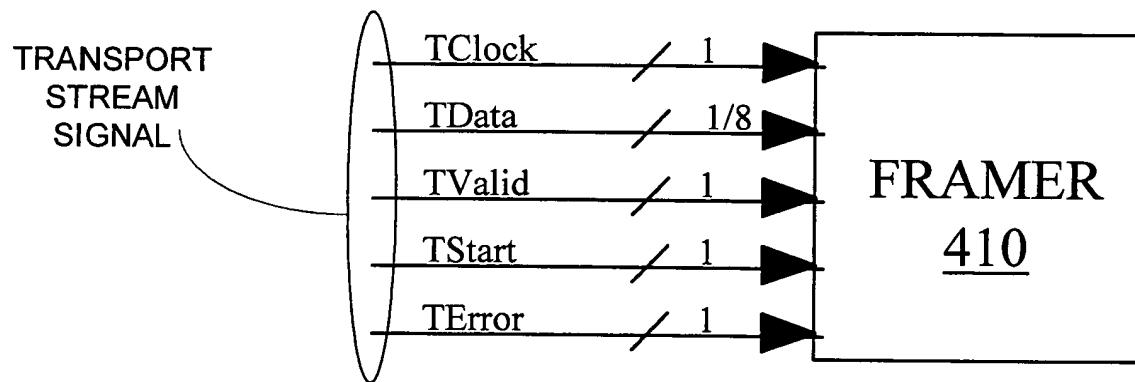


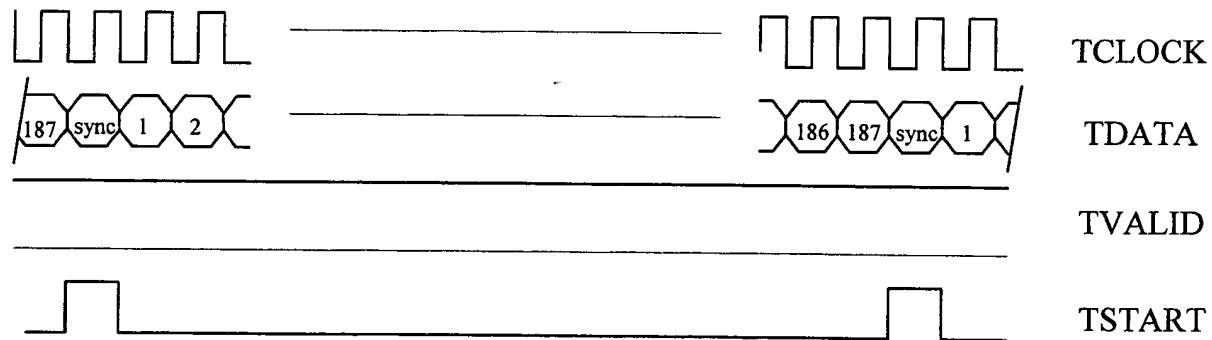
FIGURE 6



**FIGURE 7**



**FIGURE 8**



**FIGURE 9**

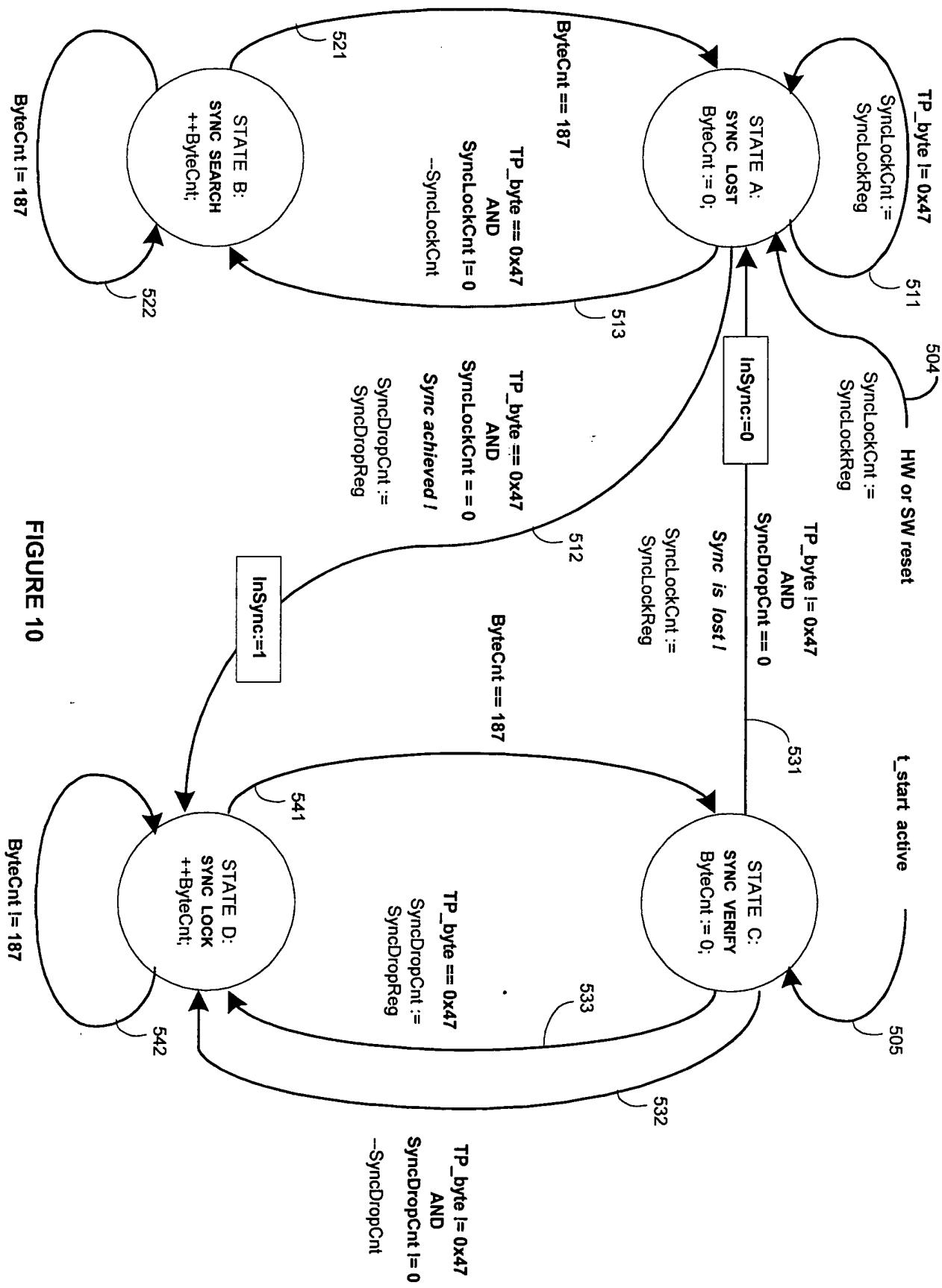


FIGURE 10

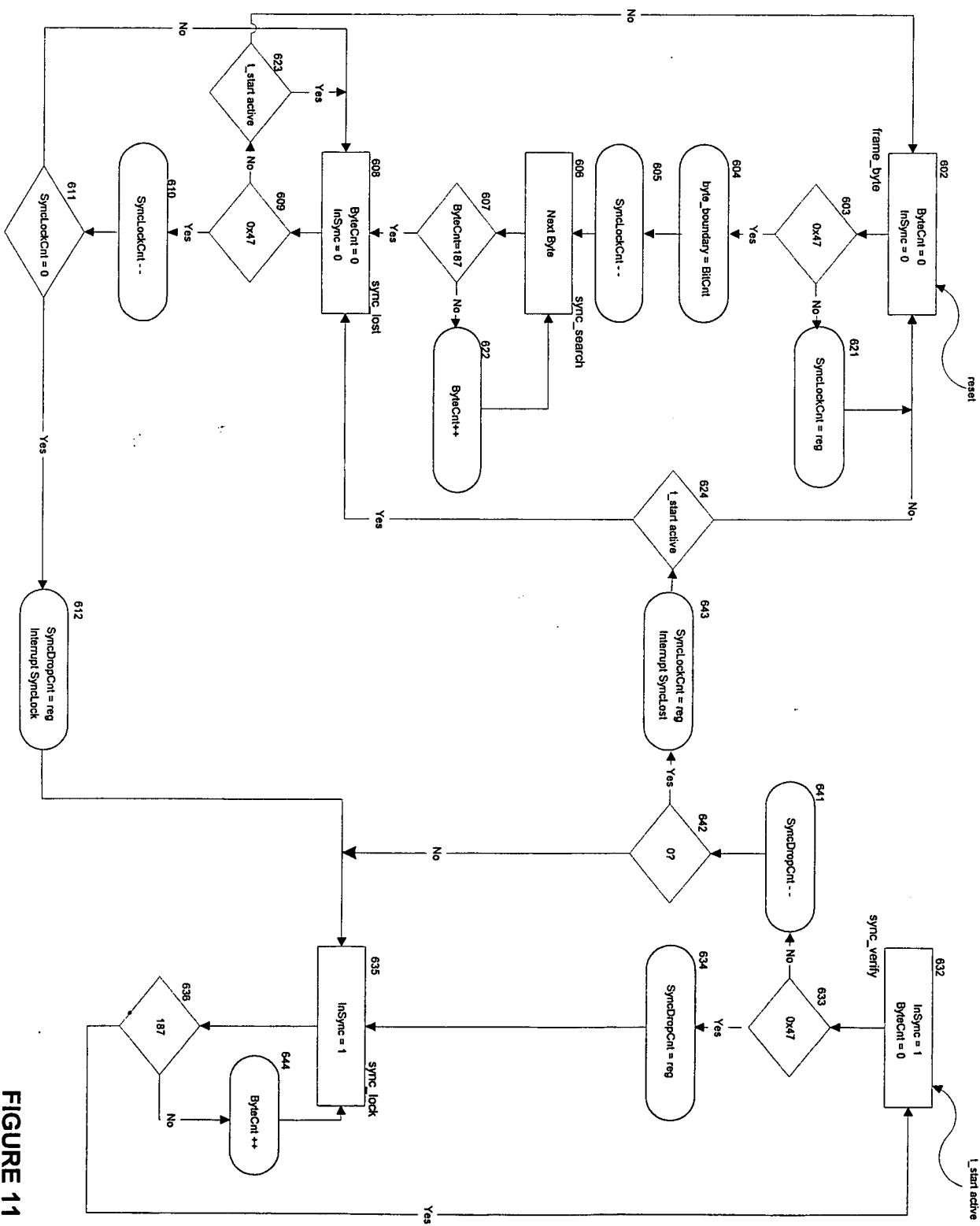


FIGURE 11

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
FramerSyncLock	0	[ 1]	0	R/W	This bit is set to '1' after the frame synchronization has been acquired. <b>WR_ACC_CLEAR.</b>
FramerSyncDrop	1	[ 1]	0	R/W	This bit is set to '1' after the frame synchronization has been lost. <b>WR_ACC_CLEAR.</b>
CurrentFramerState	20-22	[ 3]	'000'	R	<p>This 3 bit field codes the current state of the framer:</p> <p>'000' – Capturing a byte            '001' – Out of TP frame synchronization            '010' – Searching for synchronization            '011' – Checking for synchronization            '100' – In the TP frame synchronization</p> <p>NOTE: Only a framer state machine updates this field. Write access does not modify it.</p>
UnusedField	29-31	[ 3]	'000'	R/W	Unused and reserved field.

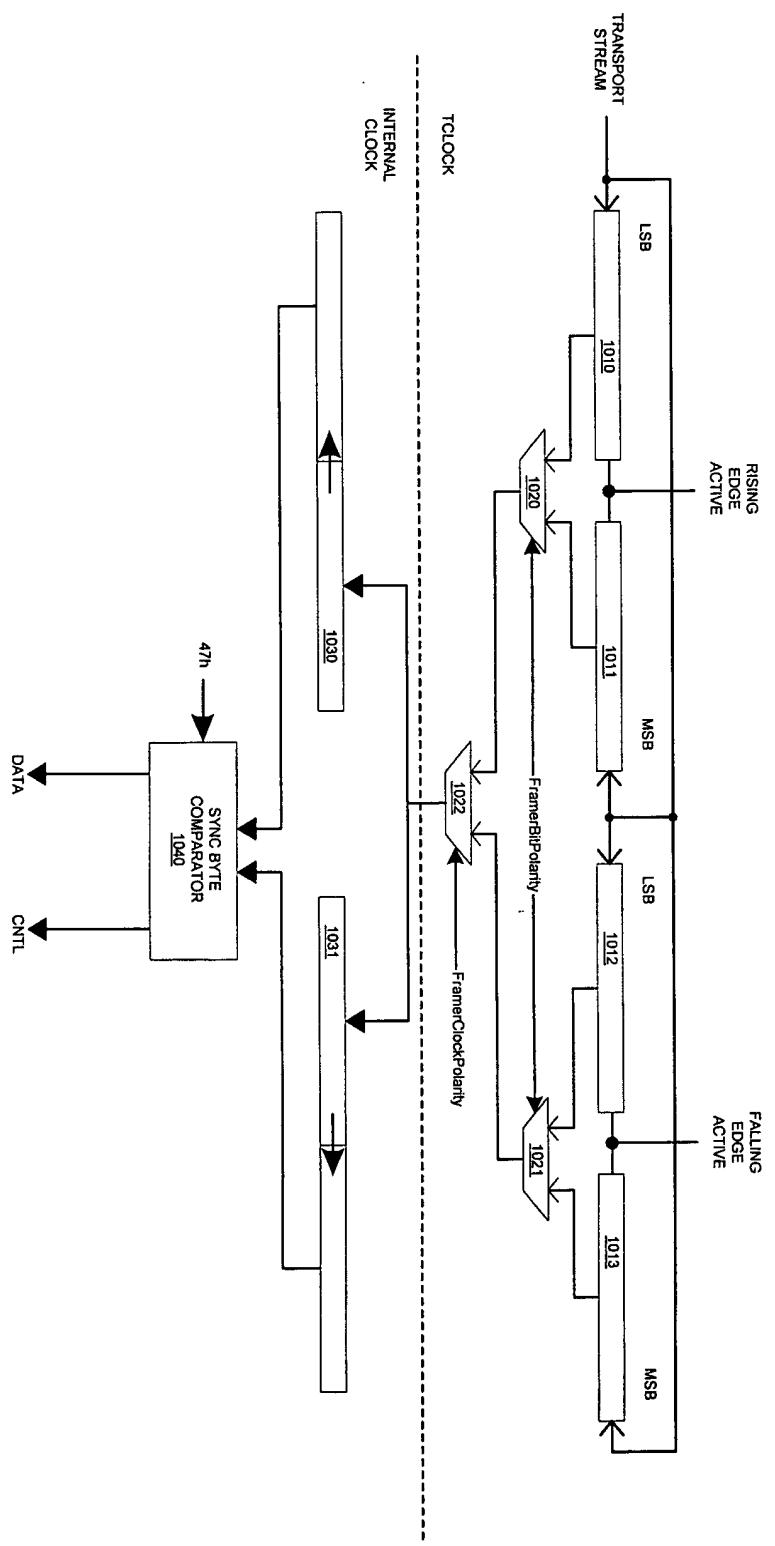
**FIGURE 12**

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	<p>If set to '1' enables local sources of interrupts.</p> <p>Bit 0 – FramerSyncLock            Bit 1 – FramerSyncDrop</p> <p>Bits 2 – 19 Other Functionality</p>
EnableGlobalDemuxInterrupt	20	[ 1]	0	R/W	If set to '1' enables globally TD core interrupts.
UnusedField	21-31	[11]	0	R/W	Unused and reserved field. Always set to 0.

**FIGURE 13**

Transport Demultiplexer Global Control Register					
Field Name	Bits	Len	Default	Type	Description
FramerSyncLockLength	0-4	[ 5]	00101	R/W	Five bits field to select a number of consecutive transport packets after MPEG-2 frame (bit-stream) synchronization is declared.
FramerSyncDropLength	5-7	[ 3]	011	R/W	Three bits field to select a number of consecutive transport packets after a loss of MPEG-2 frame synchronization is declared.
FramerBitPolarity	8	[ 1]	0	R/W	'0' selects msb first (default mode), '1' select lsb first
FramerClockPolarity	9	[ 1]	0	R/W	If set to '0' framer will latch on falling edge (default) If set to '1' framer will latch on rising edge.
FramerMode:	10-11	[ 2]	'00'	R/W	Defines a combination of external control signals: '00' – Framer uses T_start only. '01' – Framer uses T_valid only. '10' – Framer uses T_start and T_valid. '11' – Framer uses T_clock and T_data only.
Other Functionality Bits	12-15	[ 4]			Other functionality (not relevant to Framer)
T_ValidPolarity	16	[ 1]	1	R/W	'1' selects active high [5V] for t_valid external signal
T_StartPolarity	17	[ 1]	1	R/W	'1' selects active high [5V] for t_start external signal
T_ErrorPolarity	18	[ 1]	1	R/W	'1' selects active high [5V] for t_error external signal
Other Functionality Bits	19-28	[10]			Other functionality (not relevant to Framer)
UnusedField	29 -31	[ 3]	0	R/W	Unused and reserved field. Always set to 0.

**FIGURE 14**



**FIGURE 15**

720

REGISTER  
CONTROLLER  
723

721

VIDEO PES HEADER AVAIL

TEI

PAYLOAD  
START  
INDICATOR

TRANSPORT  
SCRAMBLED

TRANSPORT  
PRIORITY

PID

AF  
CONTROL

CC

424  
VIDEO PID

START  
DETECT  
725

=  
VIDEO  
PCR

VSTART

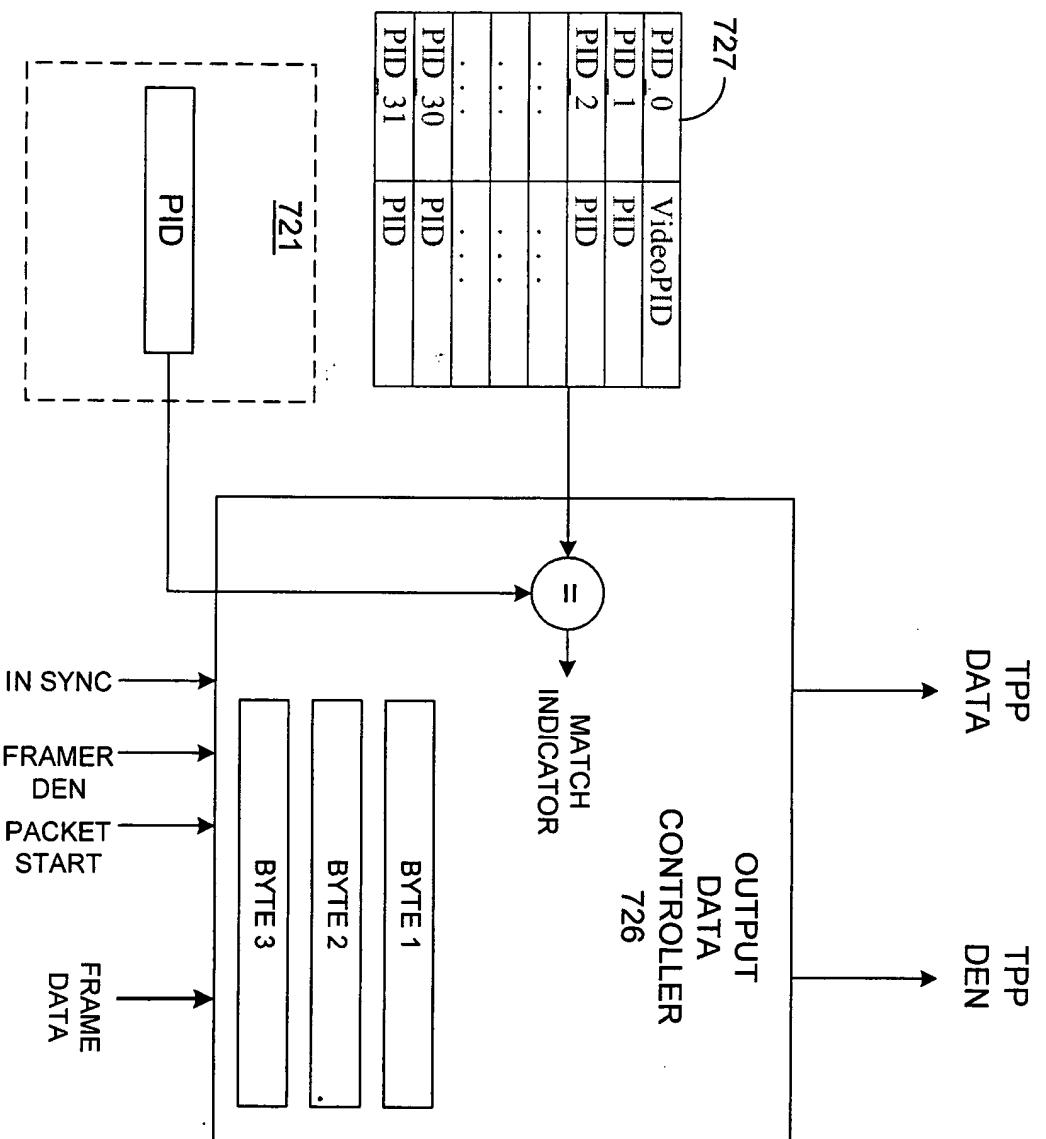
VIDEO PES HEADER AVAIL

AFSTART

IN SYNC  
FRAMER  
DEN  
PACKET  
START

FRAME  
DATA

**FIGURE 16**



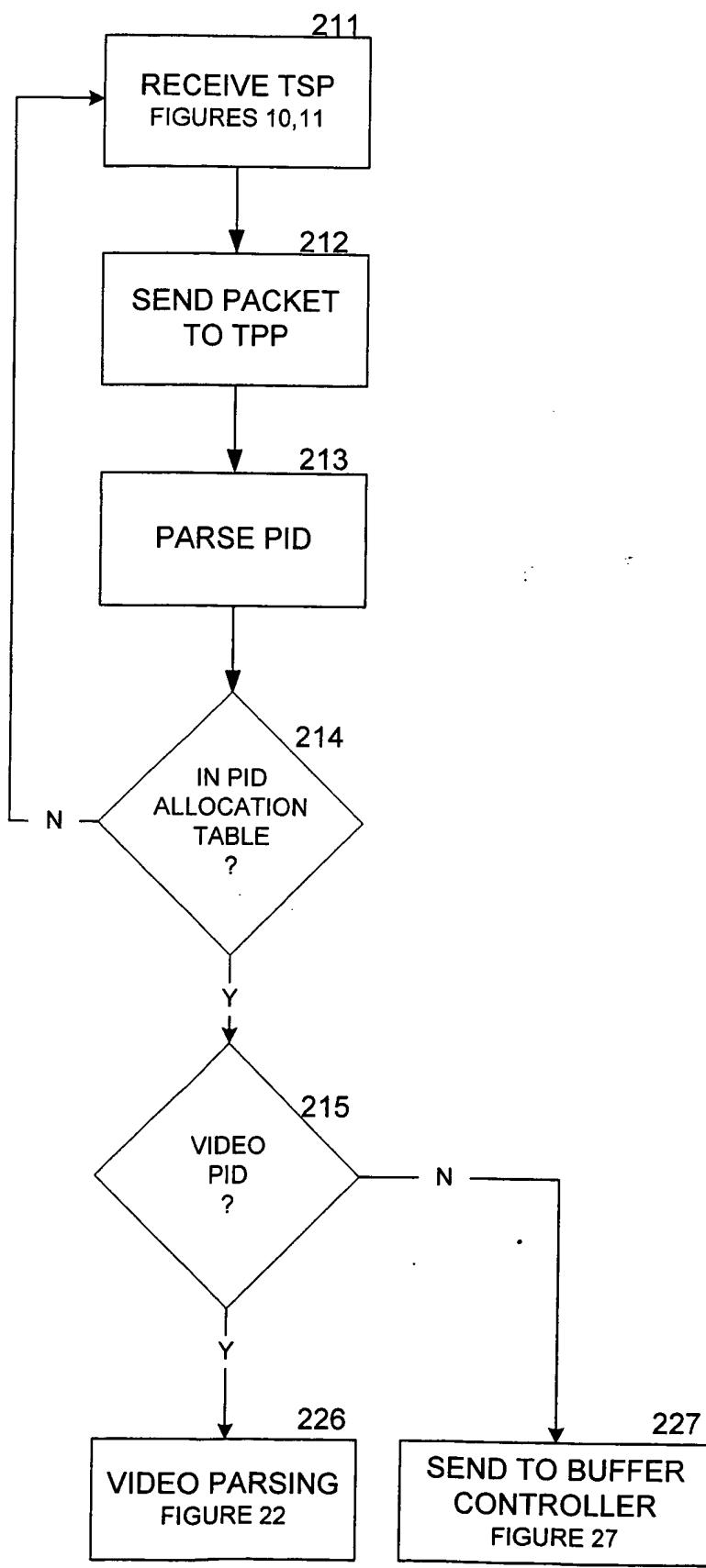
**FIGURE 17**

Video Control Registers					
Field Name	Bits	Len	Default	Type	Description
VideoPid	0 -12	[13]	0x1FFF	R/W	Selects a specific PID of the video component stream to filter on. Value of 4095 is reserved one (it means a NULL transport packets).
EnableParsing	13	[ 1]	0	R/W	If '1' enables parsing from the next transport packet.
StartFromPUSICommand	14	[ 1]	0	R/W	'0' enables PES parsing immediately. '1' enables PES parsing a transport packet from new PES packet. After that, this bit auto-returns to 0.
ProcessStreamID	15	[ 1]	0	R/W	If '1' enables parsing on specific stream_id field.
StreamID	16-23	[ 8]	0xE0	R/W	stream_id of the ES stream to filter on in the PESP.

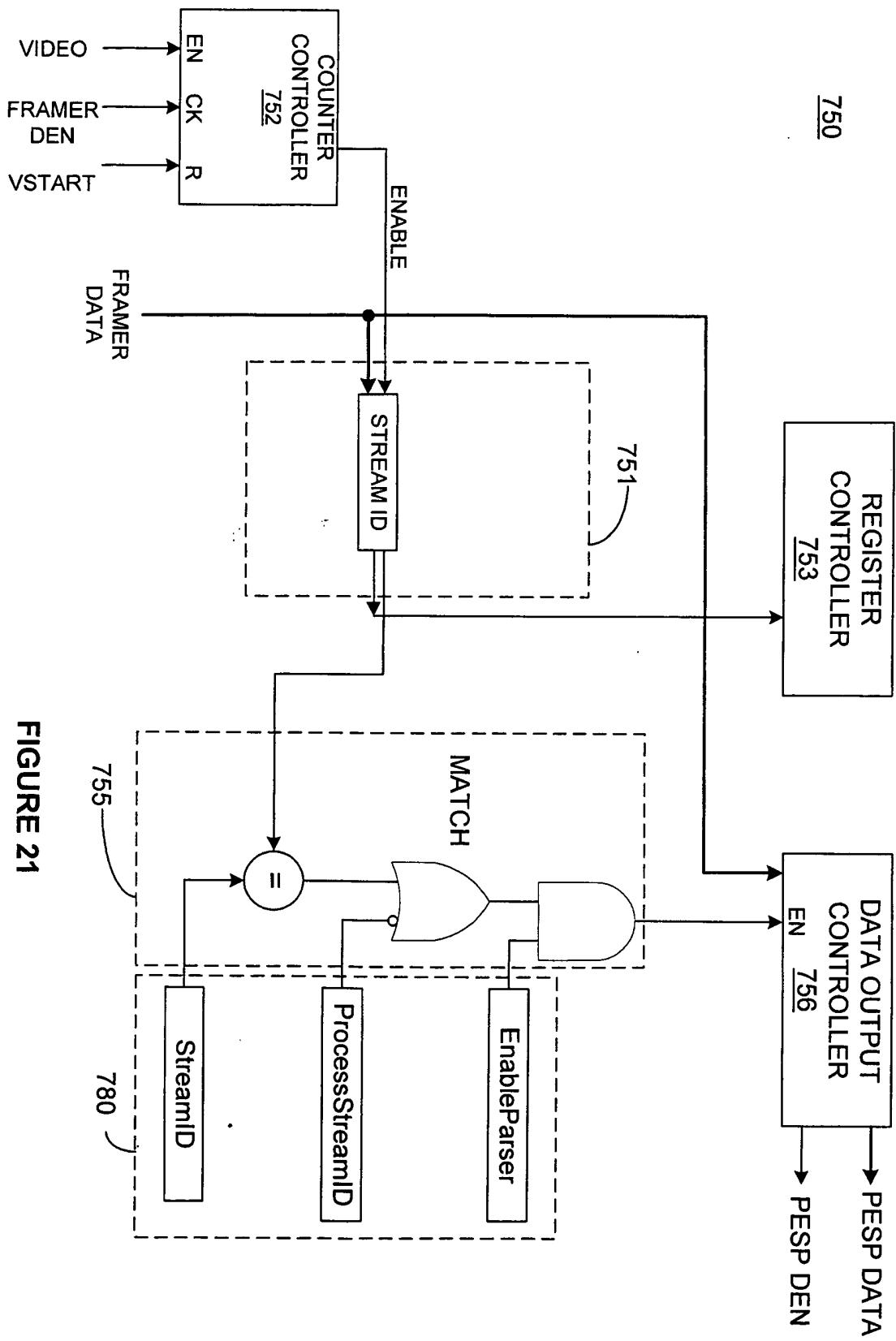
**FIGURE 18**

Transport Demultiplexer Registers					
Field Name	Bits	Len	Default	Type	Description
PID_yz, 0 ≤ yz ≤ 30	0-12	[13]	0x1FFF	R/W	Selects a specific PID of the component stream to filter on. Value of 0x1FFF is reserved (it means a NULL transport packets).
EnableParsing	13	[ 1]	0	R/W	If set to '1' extraction of defined PID_yz is enabled.
BufferIndex	14-17	[ 4]	0	R/W	Specifies 1 of 16 destination buffers in the sys. mem.

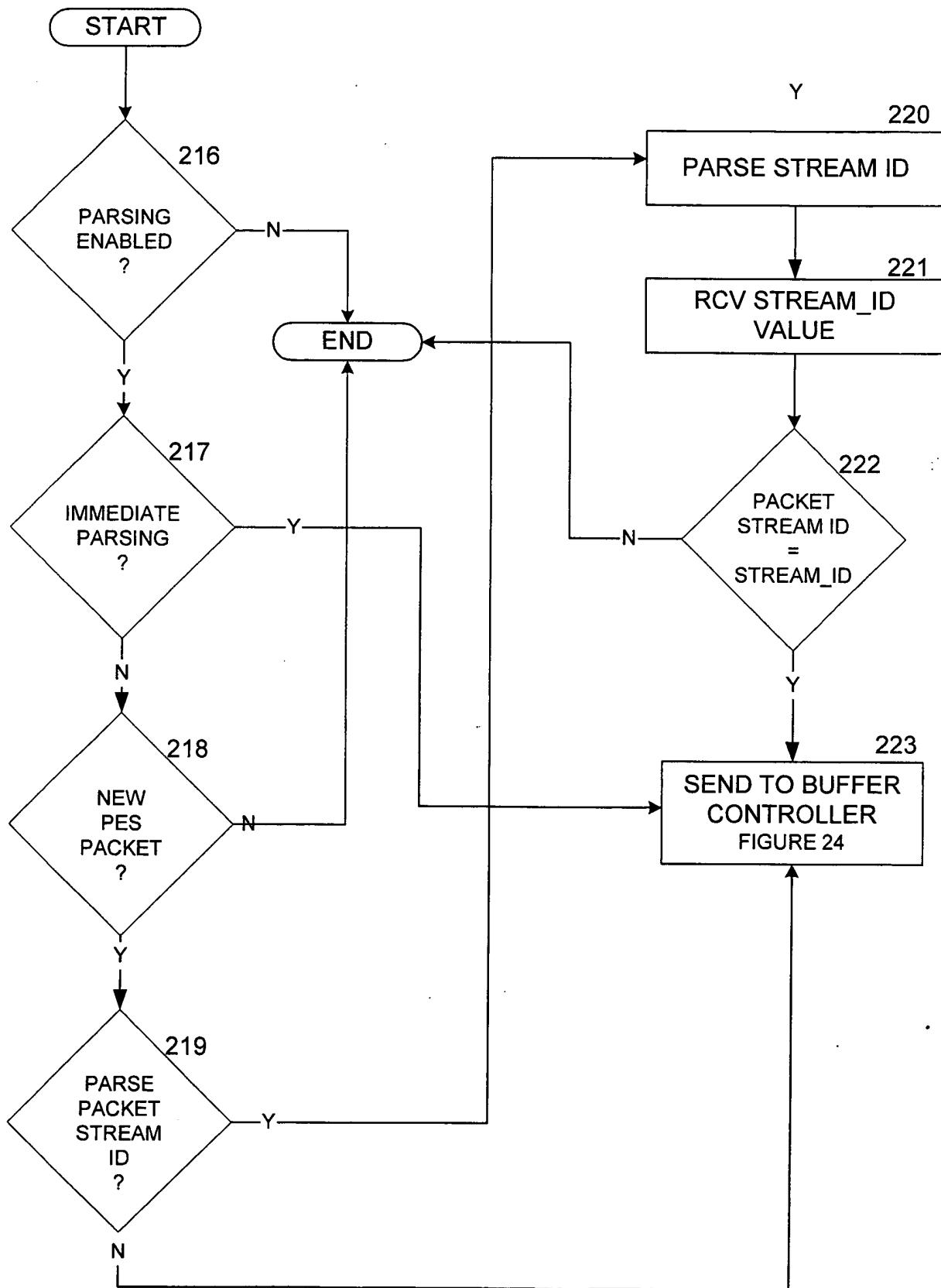
**FIGURE 19**



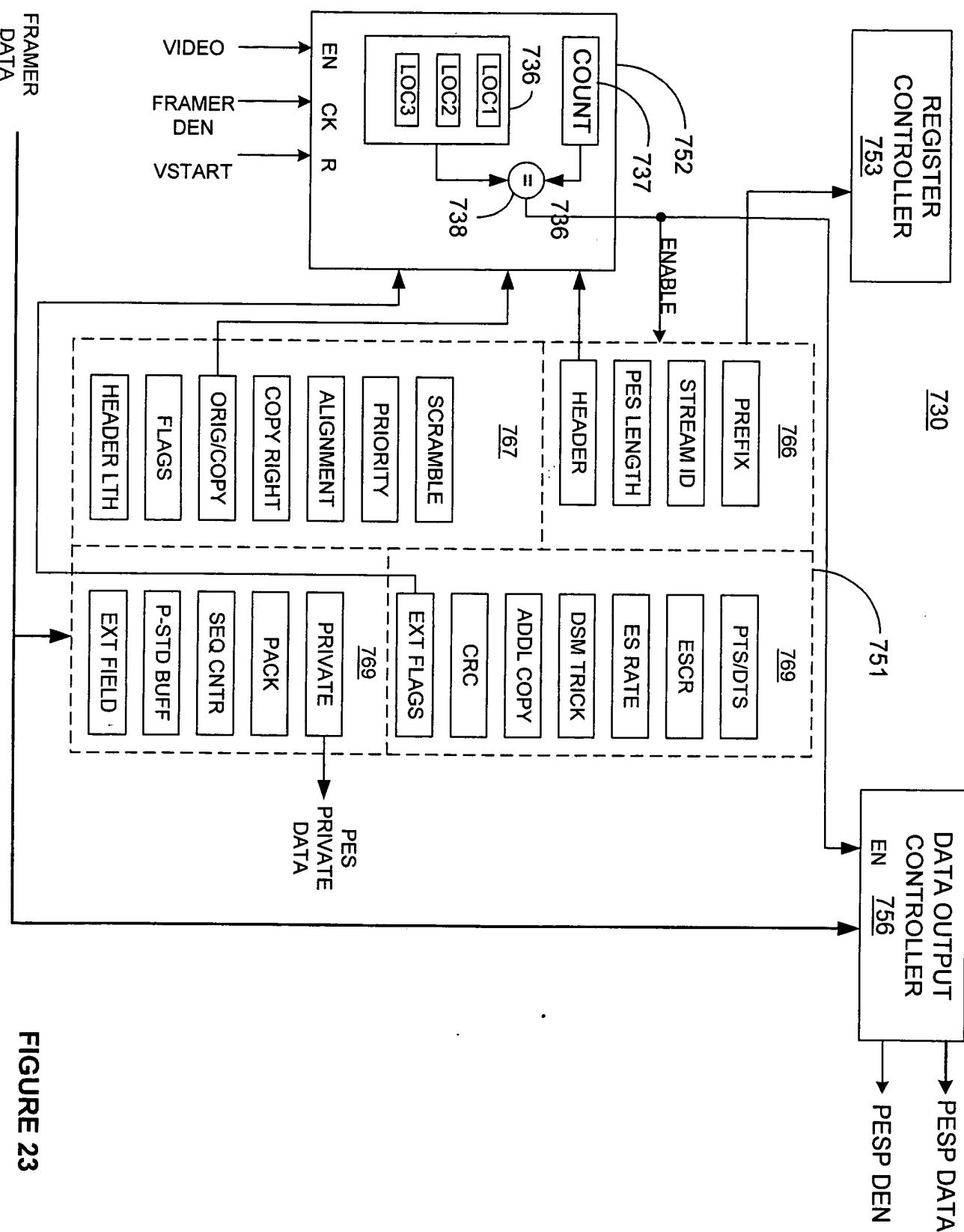
**FIGURE 20**



**FIGURE 21**



**FIGURE 22**



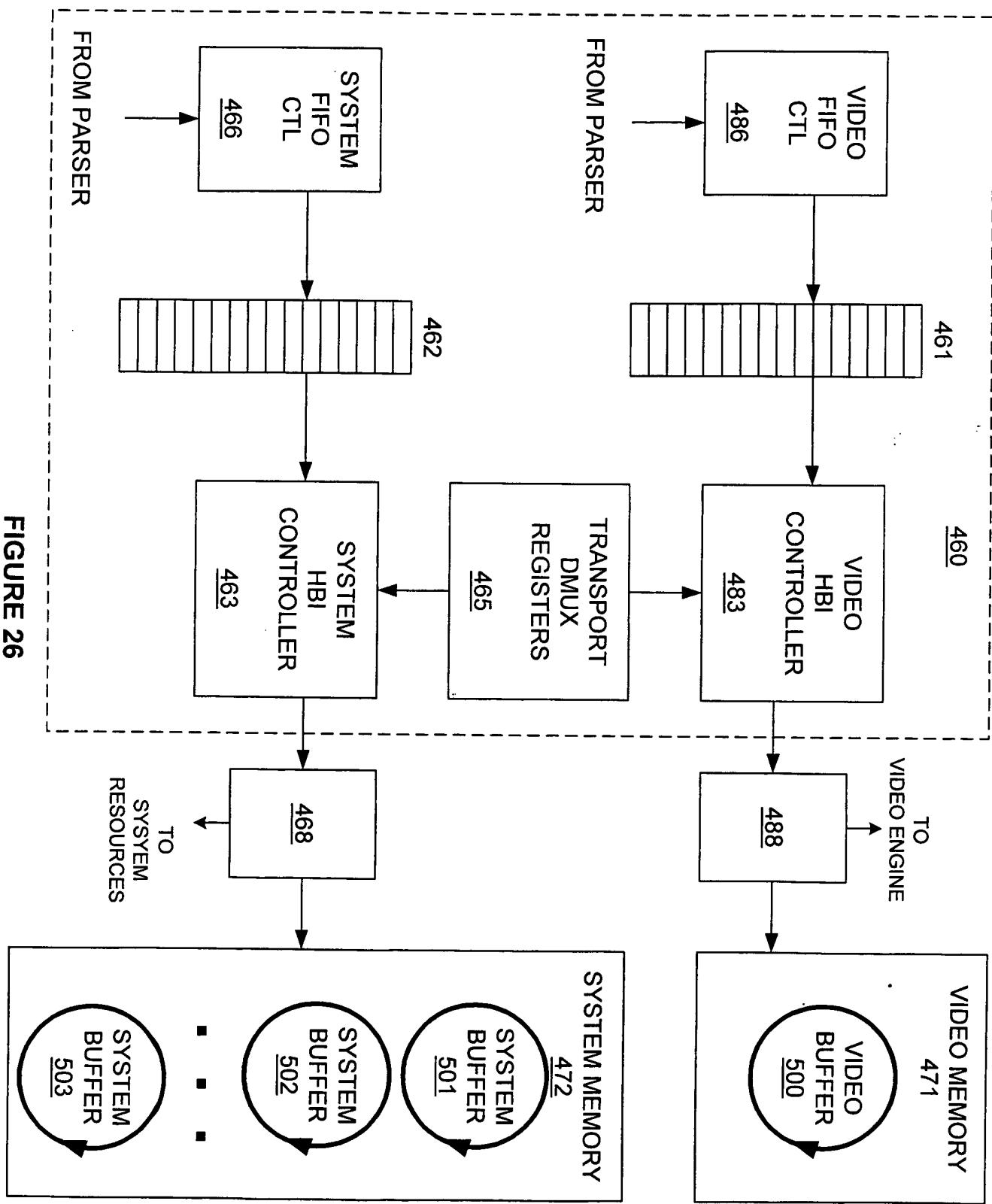
**FIGURE 23**

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
VideoPESHeaderAvailable	12	[ 1]	0	R/W	This bit is set to '1' when the new PES header of the video stream is received. <b>WR ACC CLEAR.</b>
VideoPESHeaderError	13	[ 1]	0	R/W	This bit is set to '1' after an error in the PES header is found. <b>WR ACC CLEAR.</b>
VideoPESDataAlignment	14	[ 1]	0	R/W	This bit is set to '1' when video PID has AF data_alignment_flag, indicating a possible start of I frame. <b>WR ACC CLEAR.</b>
VideoPESDSMTrickMode	15	[ 1]	0	R/W	Indicates that DSM data is found and extracted. <b>WR ACC CLEAR.</b>
VideoPESPrivateData	16	[ 1]	0	R/W	This bit is set to '1' when video PID has 16 bytes of private data in the PES header. <b>WR ACC CLEAR.</b>
VideoPESCRCError	17	[ 1]	0	R/W	This bit is set to '1' if the video CRC of the PESP parser found a CRC mismatch. <b>WR ACC CLEAR.</b>

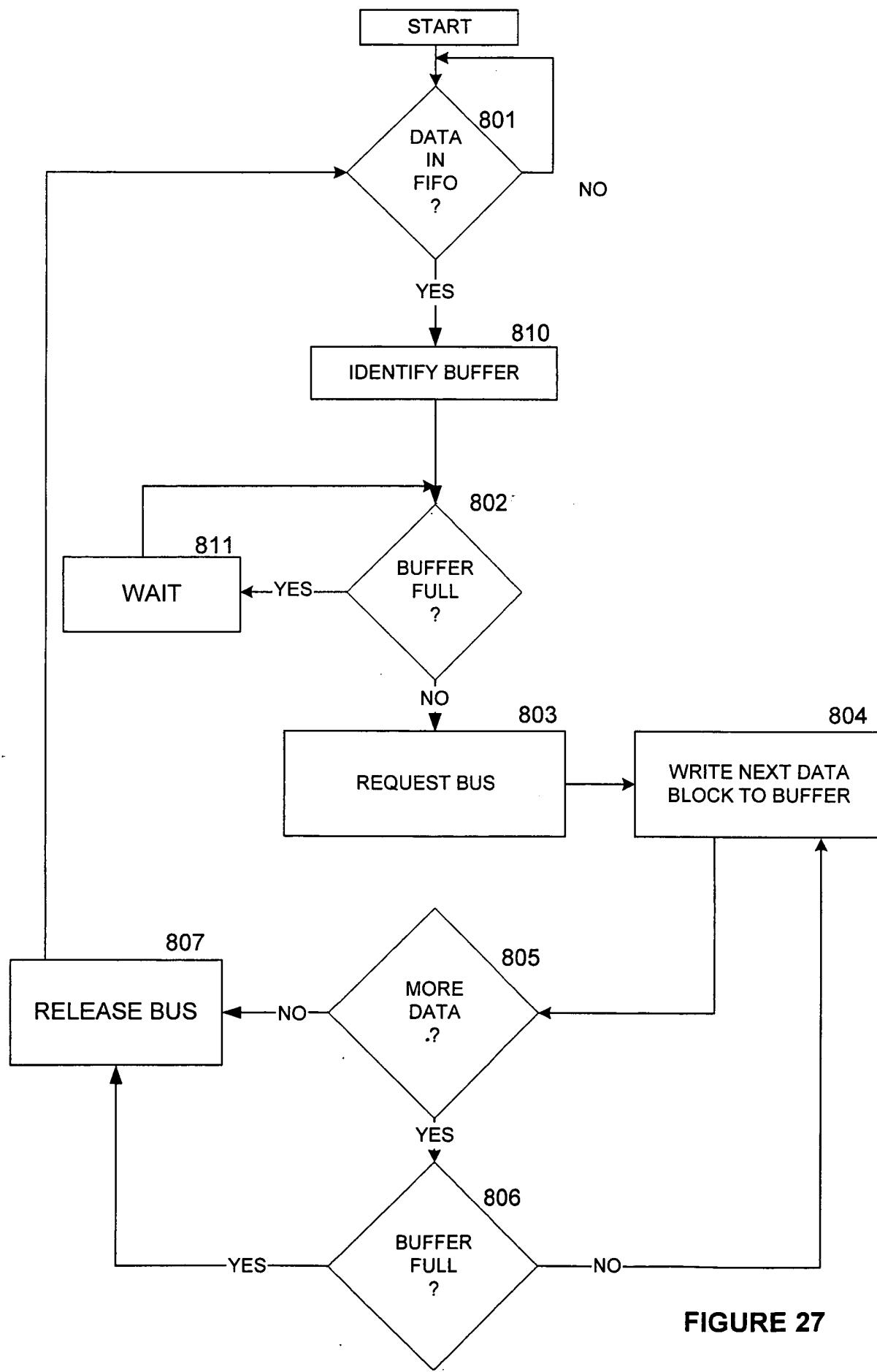
Figure 24

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	If set to '1' enables local sources Bit 12 – VideoPESHeaderAvailable Bit 13 – VideoPESHeaderError Bit 14 – VideoPESDataAlignment Bit 15 – VideoPESDSMTrickMode Bit 16 – VideoPESPrivateData Bit 17 – VideoPESCRCError Bit 18 – VideoPTSReceived Bit 19 – VideoESCRReceived

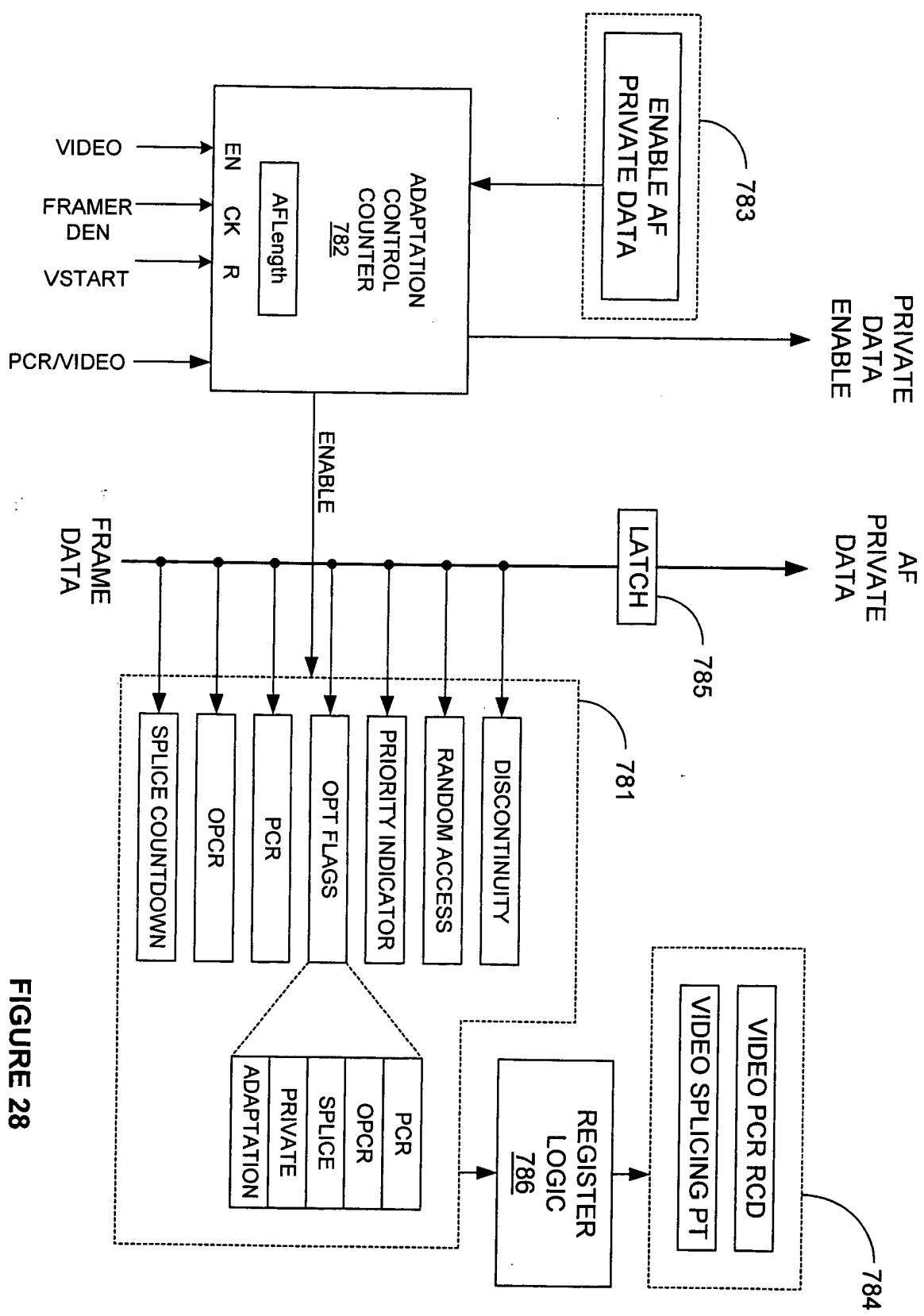
Figure 25



## FIGURE 26



**FIGURE 27**



**FIGURE 28**

Transport Demultiplexer Global Status Register					
Field Name	Bits	Len	Default	Type	Description
VideoAFPcrReceived	[ 1]	0		R/W	This bit is set to '1' after arrival and extraction of PCR sample in the adaptation field. <b>WR_ACC_CLEAR.</b>
VideoAFPcrDiscontinuity	[ 1]	0		R/W	This bit is set to '1' when a <i>discontinuity_indicator</i> in The adaptation field of the PCR PID is asserted. <b>WR_ACC_CLEAR.</b>
VideoAFDiscontinuityFlag	[ 1]	0		R/W	This bit is set to '1' after a <i>discontinuity_indicator_flag</i> has been asserted in the AF of video TP, indicating a discontinuity on continuity_counter. <b>WR_ACC_CLEAR.</b>
VideoAFRandomAccess	[ 1]	0		R/W	This bit is set to '1' when video PID <i>has random_access_flag</i> asserted in the AF, indicating a start of the elementary stream. <b>WR_ACC_CLEAR.</b>
VideoAFSplicingFlag	[ 1]	0		R/W	This bit is set to '1' when video PID has <i>splicing_point_flag</i> asserted in the AF, indicating approaching of the splicing point. <b>WR_ACC_CLEAR.</b>
VideoAFSplicingPoint	[ 1]	0		R/W	This bit is set to '1' when video PID has <i>splicing_point_flag</i> asserted in the AF, after splicing point occurred ( <i>splice_countdown</i> =0). <b>WR_ACC_CLEAR.</b>
VideoAFPrivateData	[ 1]	0		R/W	This bit is set to '1' when video has AF private data. <b>WR_ACC_CLEAR.</b>
AFSpliceCountdown	[ 8]	0x00		R/W	Current splice countdown value from adaptation field of A/V packets. Modified on the fly by AF content

Figure 29

Transport Demultiplexer Interrupt Mask Register					
Field Name	Bits	Len	Default	Type	Description
EventInterruptMask	0-18	[19]	0	R/W	If set to '1' enables local sources Bit 5 – VideoAFPcrReceived Bit 6 – VideoAFPcrDiscontinuity Bit 7 – VideoAFDiscontinuityFlag Bit 8 – VideoAFRandomAccessFlag Bit 9 – VideoAFSplicingFlag Bit 10 – VideoAFSplicingPoint Bit 11 – VideoAFPrivateData

Figure 30

Transport Demultiplexer Global Control Register				
Field Name	Bits	Len Default	Type	Description
EnableAFPrivateData	[ 1]	0	R/W	If '1' enables parsing and routing of AF private data
AFFPrivateDataBufferIndex	[ 4]	0	R/W	Specifies 1 of 15 destination buffers in the system memory
PCRIndex	[ 1]	0	R/W	
EnableAutoSplicing	[ 1]	0	R/W	

**Figure 31**

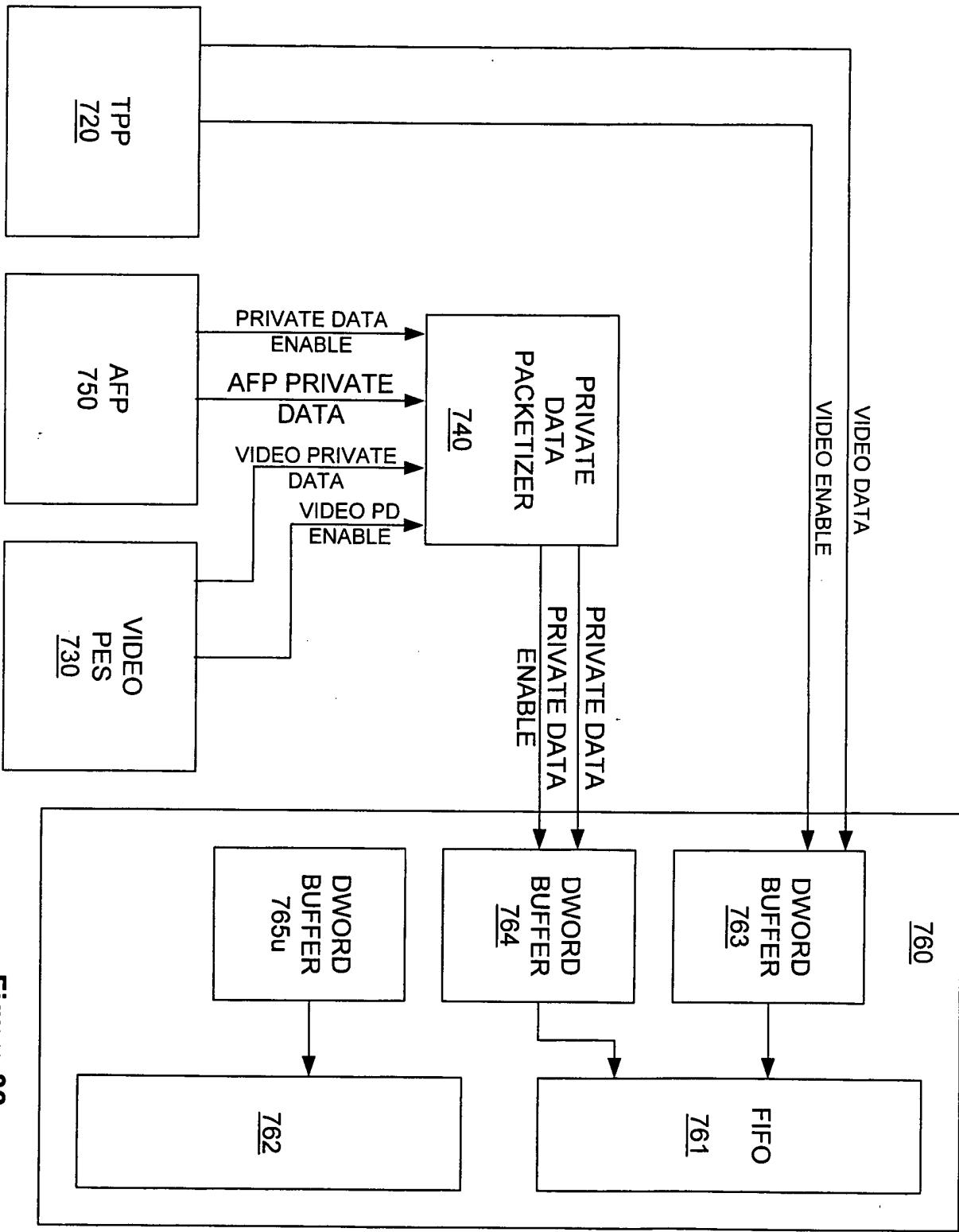


Figure 32

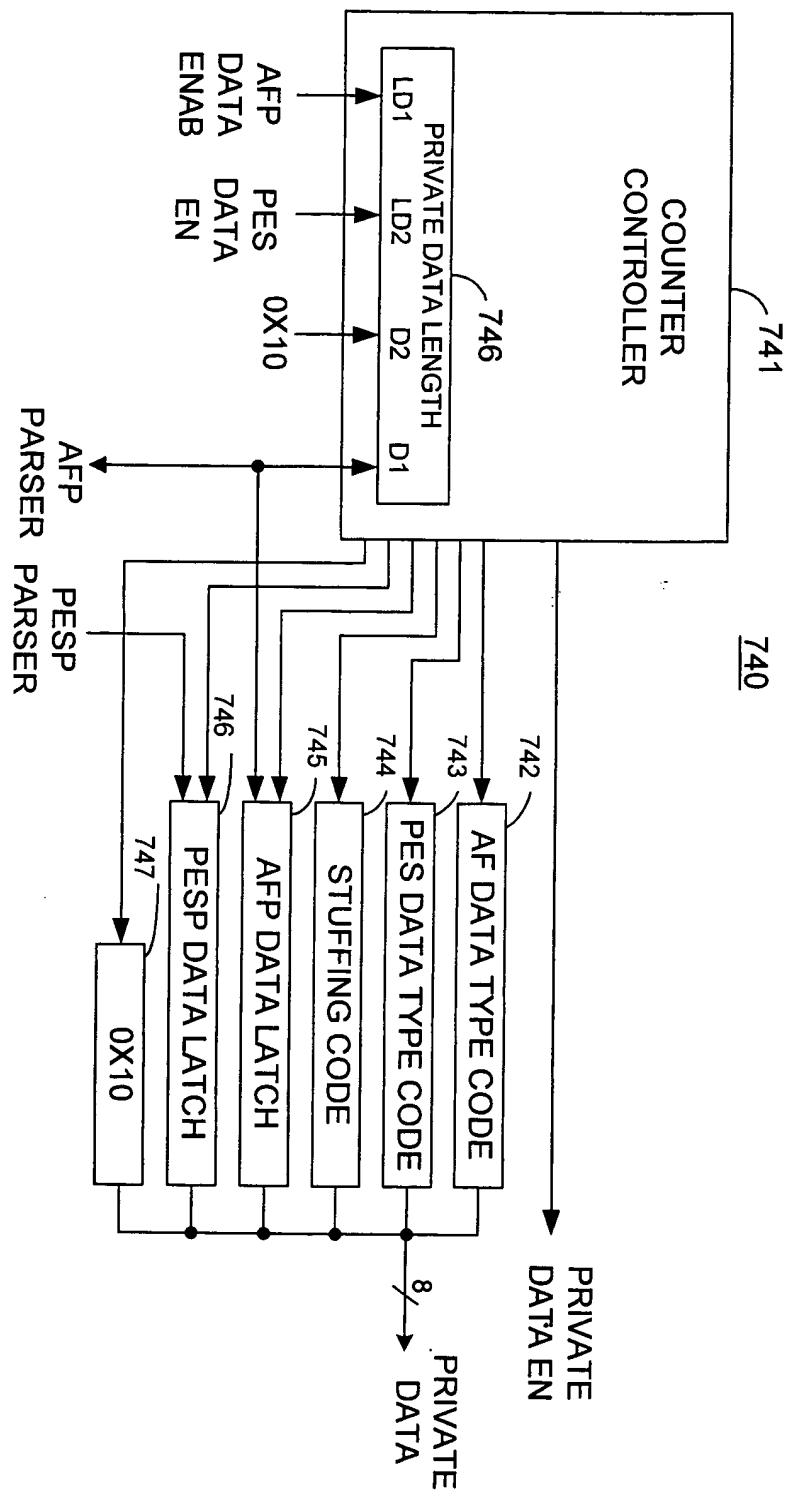
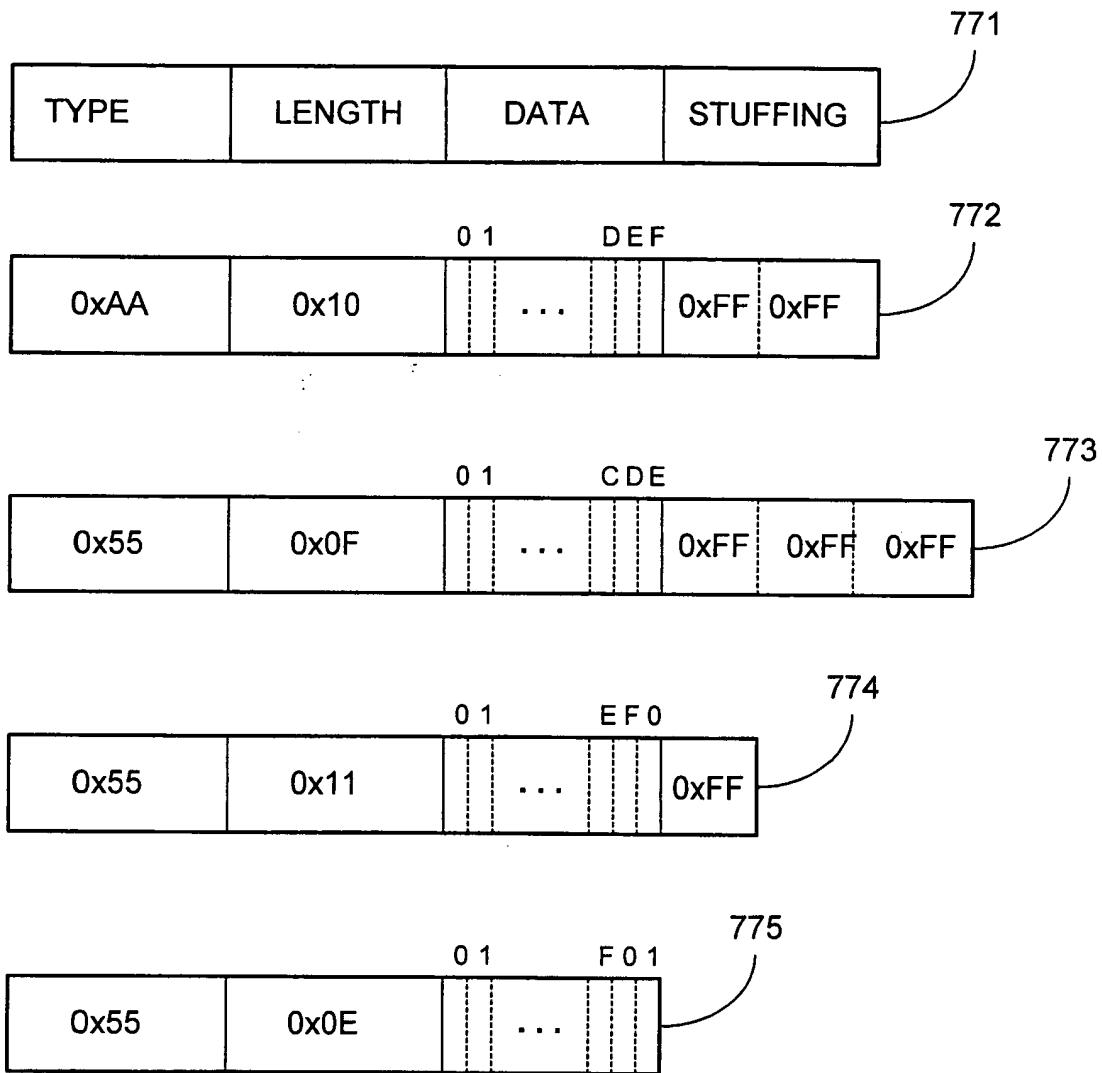


Figure 33



**Figure 34**

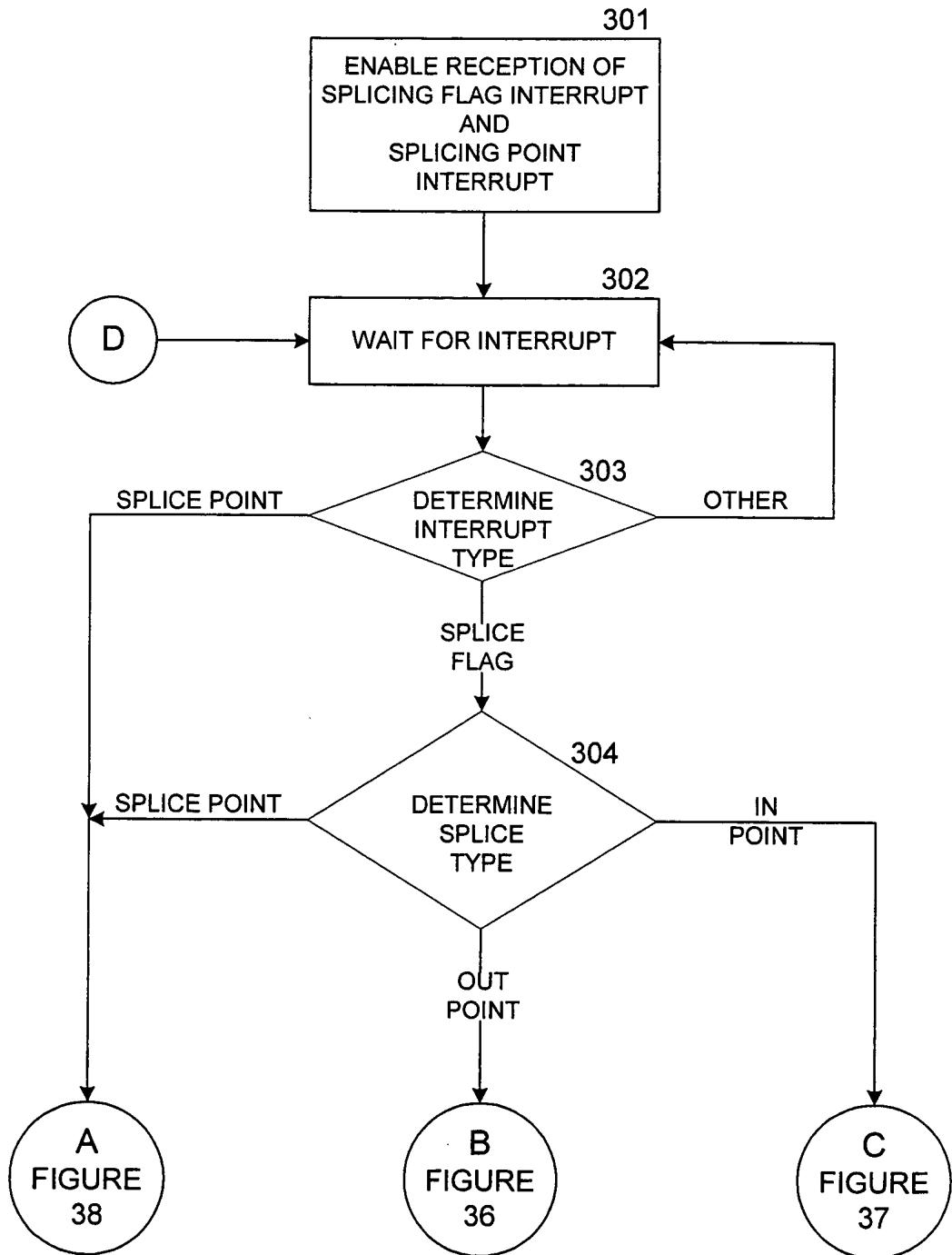
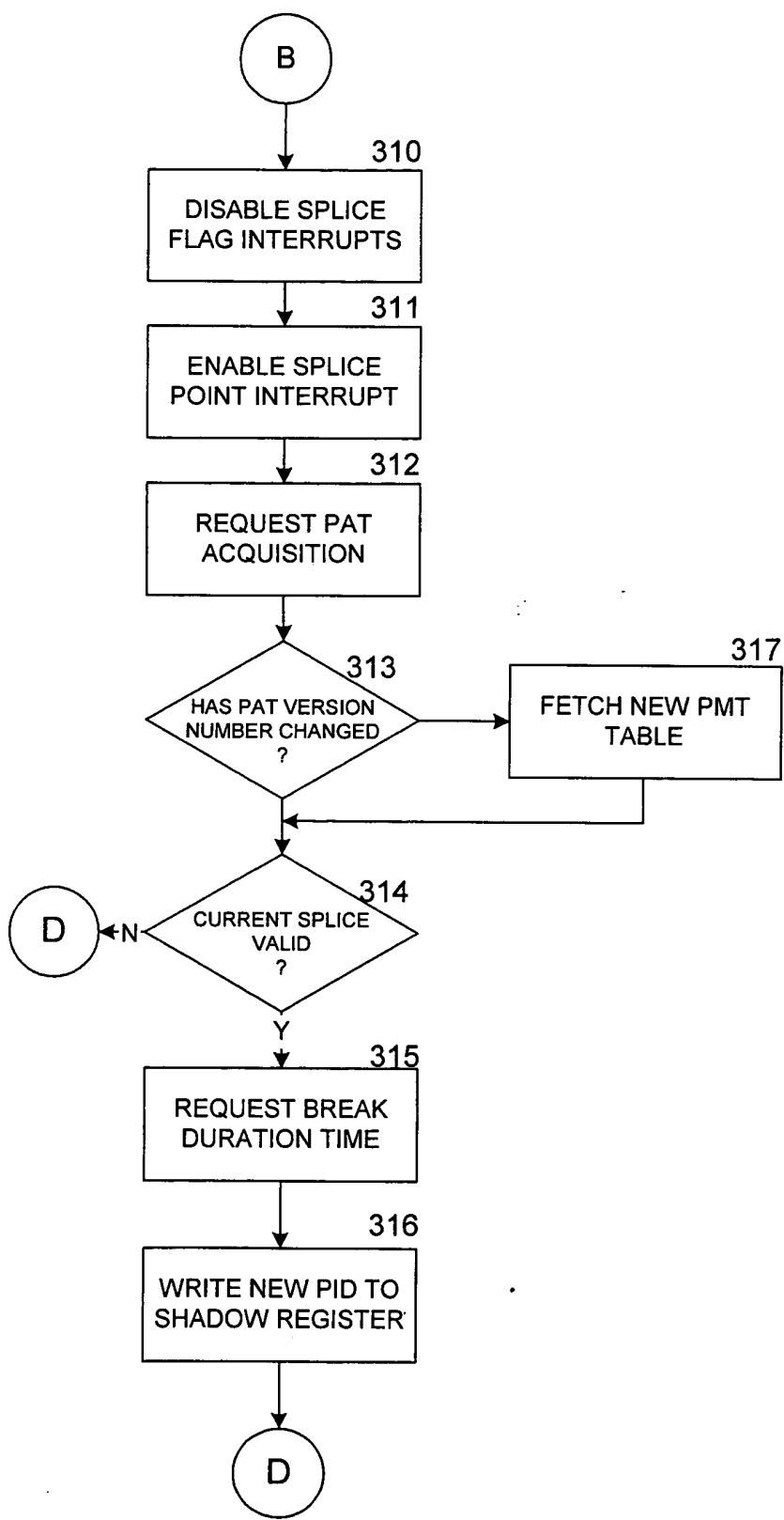


FIGURE 35



**FIGURE 36**

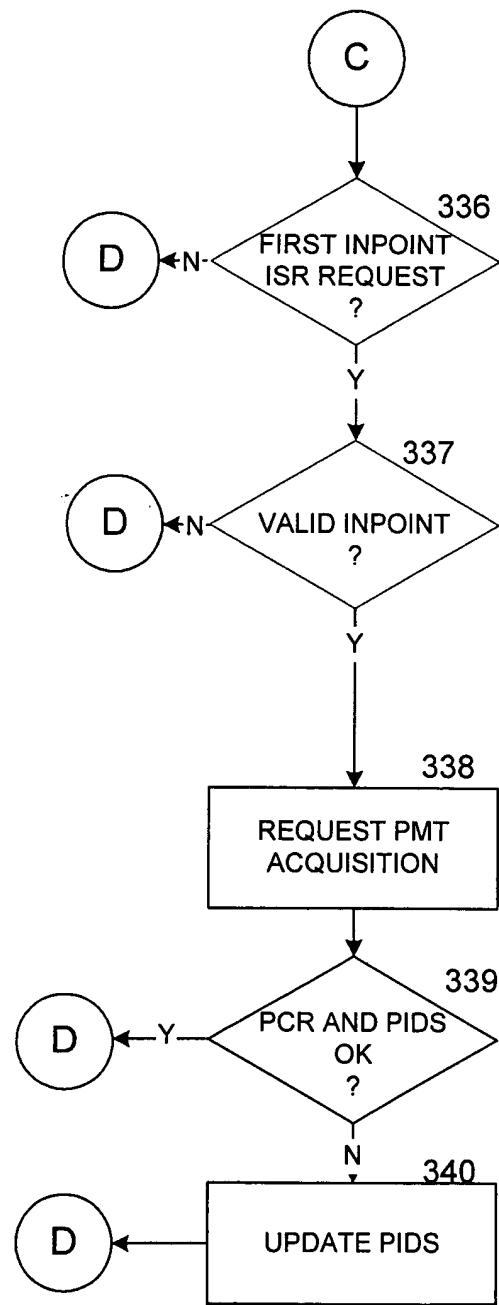
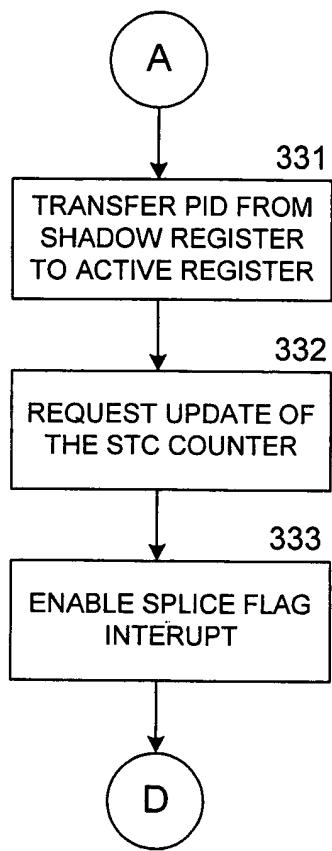


FIGURE 37



**FIGURE 38**

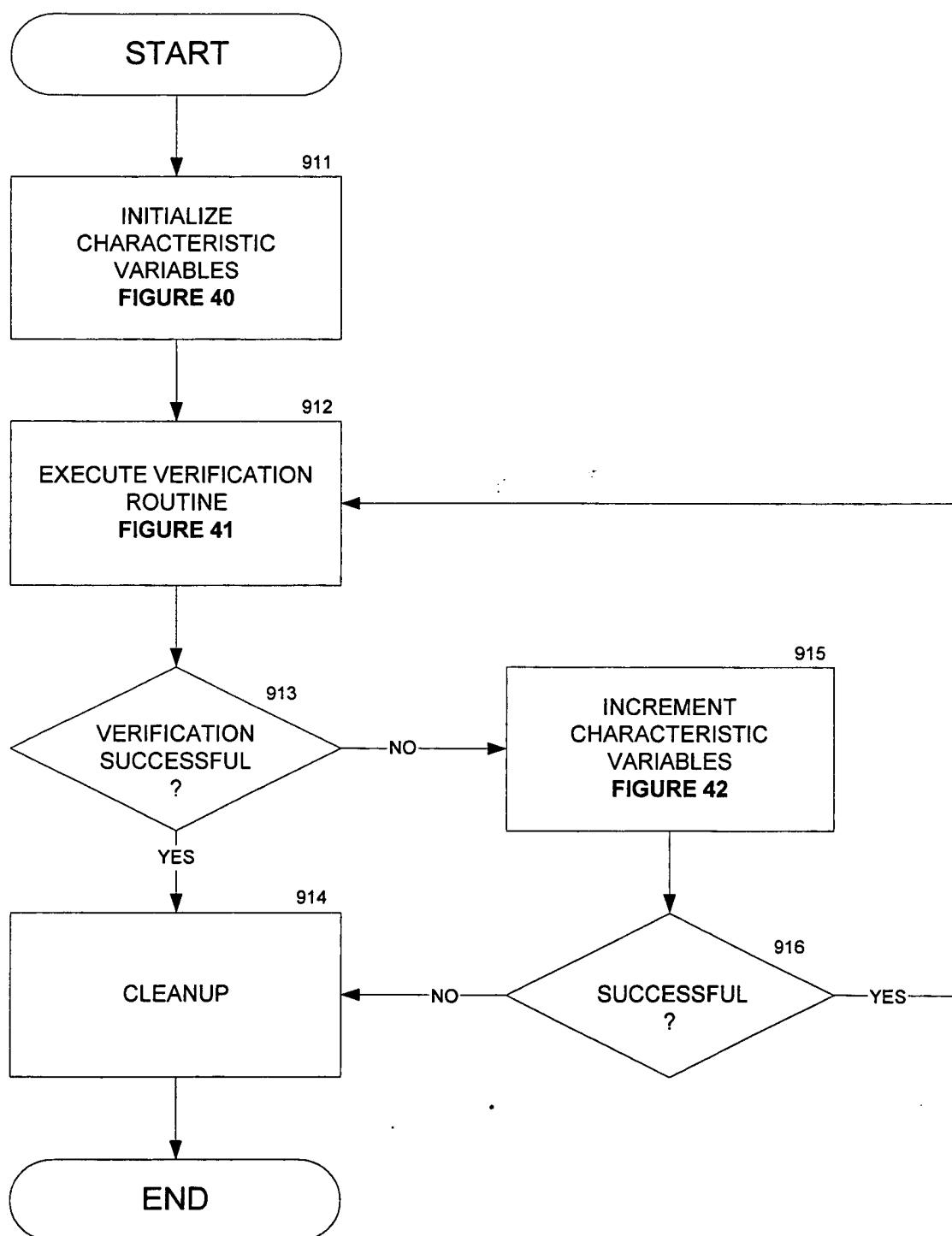
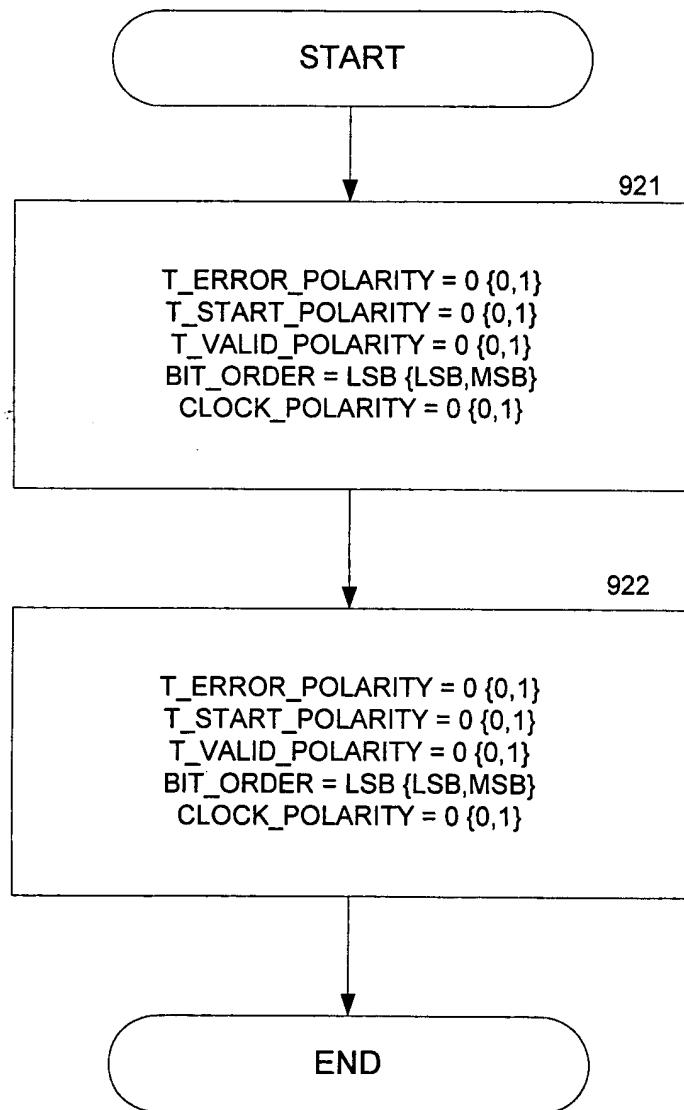


FIGURE 39



**FIGURE 40**

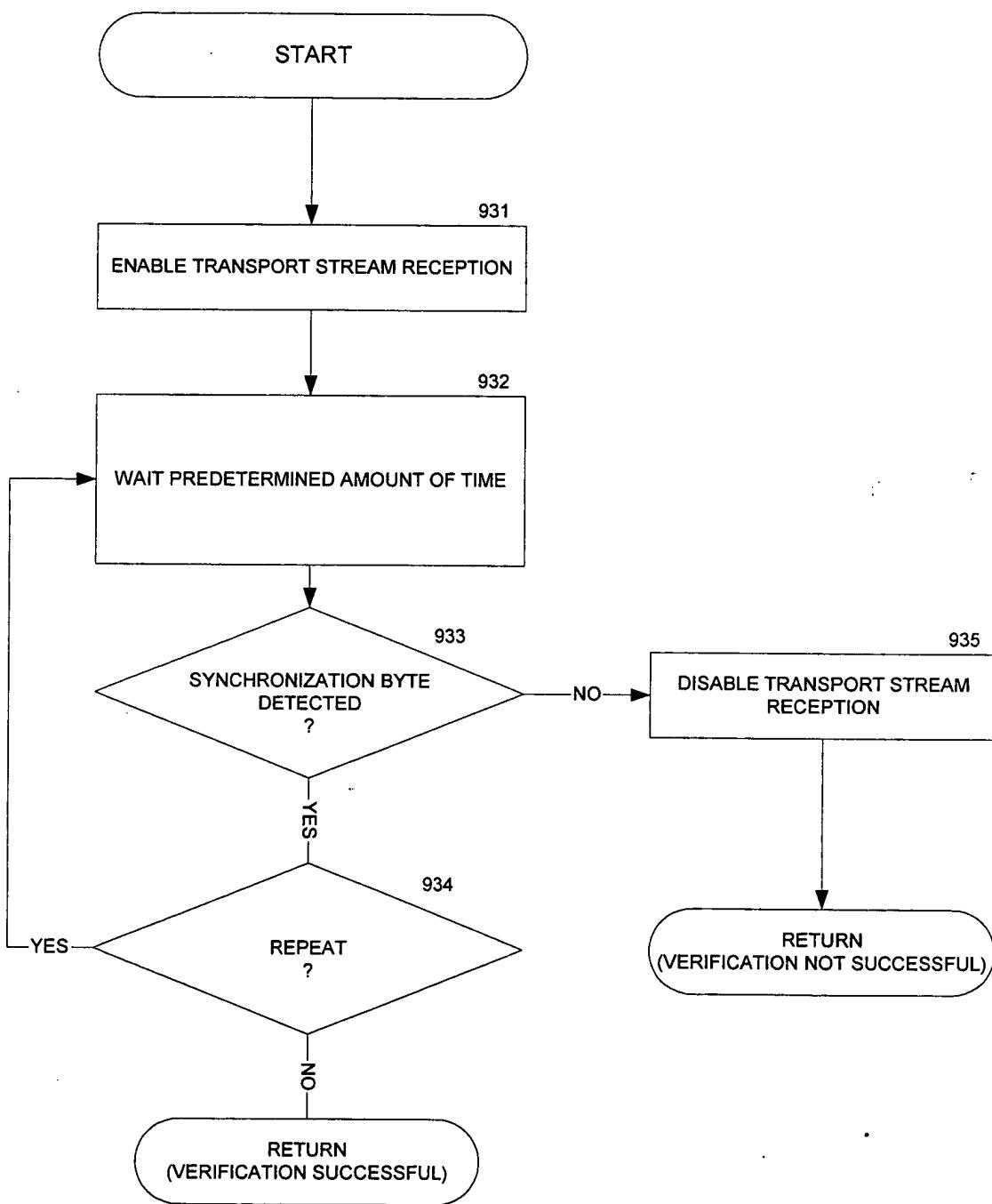
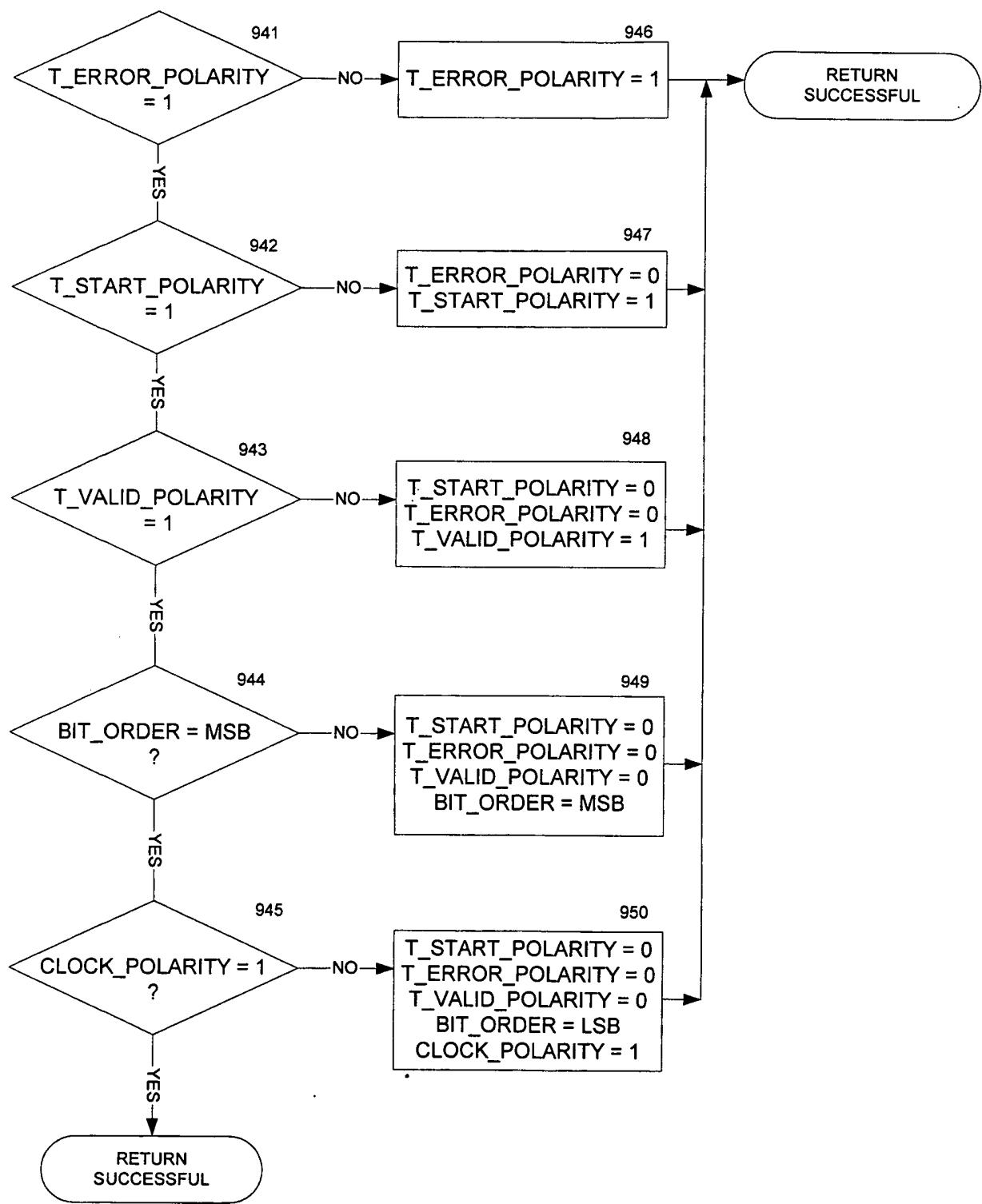
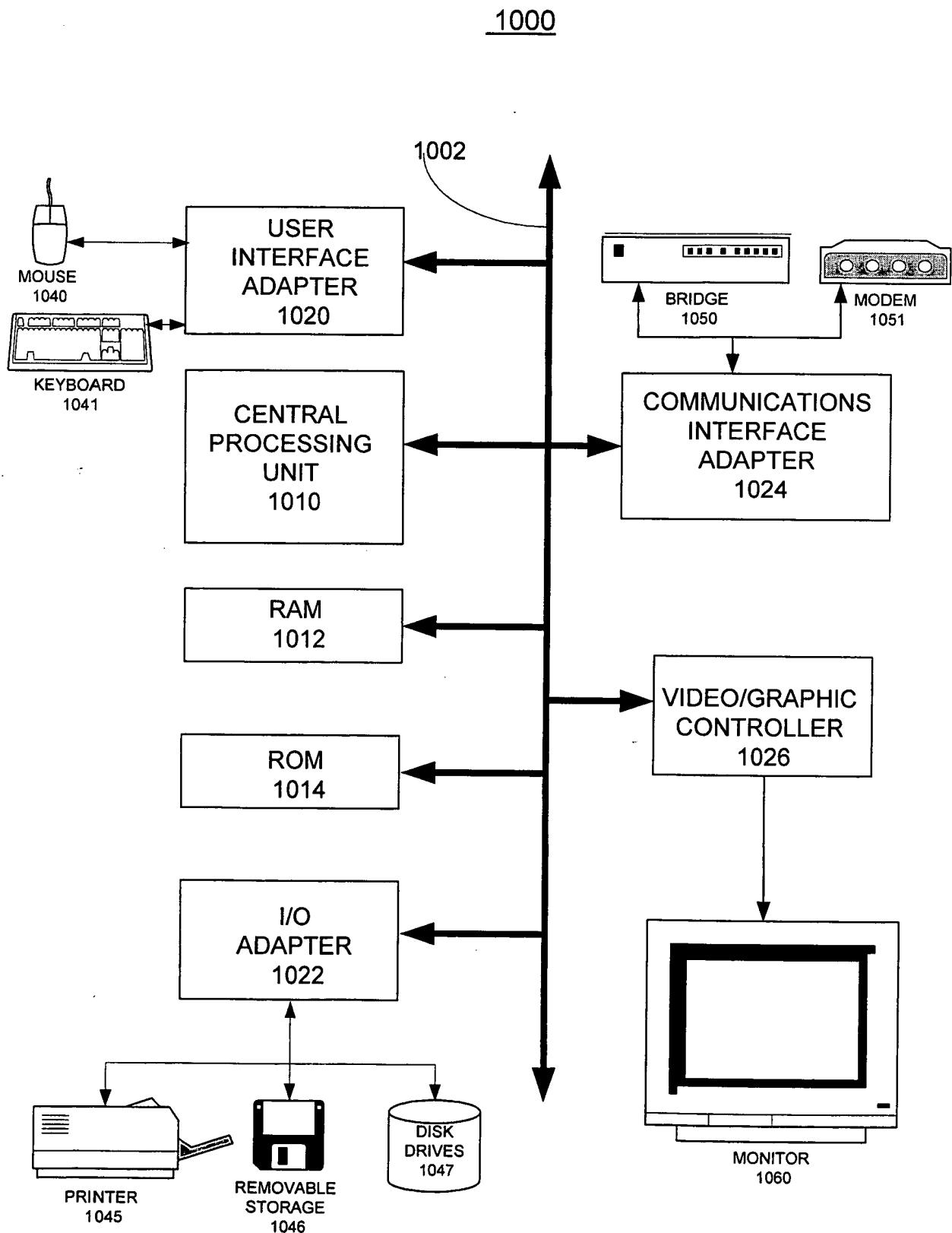


FIGURE 41



**FIGURE 42**



**FIGURE 43**